

ABSTRACT

A discharge lamp lighting apparatus includes: a DC power supply to supply power to a HID lamp; a transformer to transmit a voltage of DC power supply to the HID lamp; a switch connected between the DC power supply and a primary winding of the transformer; switches connected to a primary side of the transformer; an inductance connected in series to a secondary winding of the transformer; a series resonance circuit connected to a secondary side of the transformer and including an inductance and a capacitor; and a parallel resonance circuit connected to the secondary side of the transformer and including an inductance and a capacitor. The switches are opened or closed to intermittently supply power from the DC power source to the transformer to always supply a current to the transformer.